



Early Years Library

SERIES INTRODUCTION: EARLY NUMERACY

Early numeracy skills lay a foundation for counting, understanding spatial relationships, and discovering patterns and connections in the world. Even young babies tune in to shapes, patterns and quantities, paying attention to sights and sounds around them.

Practitioners can support children's natural curiosity by showing interest in what children see and ask and posing questions so children can offer thoughts or solutions. Through these interactions, children will develop early numeracy skills in the context of meaningful everyday experience, and then be able to apply these skills to new problems and contexts.

Practitioners do not need to be experts in mathematics. Numeracy in the early years can be part of everyday activities rather than taught at a scheduled time. For example, opportunities for supporting early numeracy arise when talking to children about how to make pieces fit when building towers, or when measuring out flour to make dough. Everyday interactions involving patterns, numbers and measuring allow children to explore number, quantity, space, and shapes. Children benefit from having a positive attitude towards numeracy and mathematical problems. Early years practitioners can support children to develop confidence and enthusiasm when exploring new activities, encouraging them to have a go without being worried about making mistakes.

The Early Years Library contains four early numeracy booklets, each covering a core numeracy skill and key practices that can be used to support skill development. The table on the next page presents the four booklets.

If you want to support:	Focus on:
Pattern and shape	Properties of shapes
	Spatial awareness
	Sorting and matching objects
	Identifying and repeating patterns
Measurement	Becoming familiar with how to measure
	Becoming familiar with charts and graphs
Numbers and counting	Learning to count out loud
	Recognising numerals
	Learning the order of numbers
	Matching numbers to quantity
	Comparing and matching quantity
	Counting and set production
	Ordinal numbers
Adding and taking away	Plus or minus one from a number
	Adding two numbers together
	Subtracting numbers from each other

For more information on the Early Years Library and to download the booklets, visit www.EIF.org.uk/EarlyYearsLibrary

How can I use these booklets?

The booklets can be used very flexibly and for different purposes:

- During new staff induction, to help new staff understand why they focus on certain skills and activities.
- When planning activities for the children based on your understanding of their interests, needs and the curriculum in your setting. Practices and strategies can be adapted to your context, to children's age, and to your daily schedule.
- Throughout the day to get inspiring ideas for extending activities, responding to children and planning in the moment.

As a practitioner, you might find that you are already using many of these strategies and practices. This can give you the confidence that the work you are doing to support the children in your care is underpinned by evidence.

Commonly used strategies

Evidence-based programmes recommend a range of strategies for practitioners. Throughout the Early Years Library, you will notice that some of these strategies are used more frequently to support some skills, while other strategies are used more frequently to support other skills. For instance, physical actions and activities to separate one number from another, such as clapping and jumping, are frequently used to teach children to count out loud, while visual displays, objects and materials are frequently used to help children familiarise with properties of shapes. Using a range of strategies is most likely to support young children's development. At times, as a practitioner you will also step back and let children experience challenge and joy in their learning without getting involved.

Strategies to support early numeracy skills include:

- Visual displays, objects and materials
- Discussion, questions and answers
- Didactic instruction and teacher modelling
- Drawing and writing
- Multimedia
- Strategy practice and physical learning
- Games, role-play and child modelling
- Timetabled routines
- Books, songs and nursery rhymes
- Art and creative projects

Inspiring ideas

To support each of the skills, the Early Years Library offers inspiring ideas based on typical activities in evidence-based programmes. There are a range of activities suitable for individual, small group, and whole group activities. Some of the inspiring ideas are appropriate for in-the-moment interactions with children, while others require more planning. They are meant to inspire your practice, not dictate it. You can use the inspiring ideas to reflect on your practice, discuss ideas with colleagues and plan how to respond to children's interests and needs in relation to your curriculum.





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Unique individuals

Research shows that each child develops in a unique way, rather than following a strictly linear pre-defined route through development in a specific order or timeframe. For this reason the Early Years Library is not presented in chronological order by age. Practitioners can use their professional judgement to gauge which skills a child may benefit from focusing on at different times.

Inter-connected areas of development

While the booklets are presented separately, research shows that all areas of development are inter-connected. Supporting children's early numeracy skills will call on language and early literacy skills; supporting children's language and early literacy skills will call on social and emotional skills; and so on. The Early Years Library is designed to be flexible, allowing you to combine practices from across the booklets and return to the booklets in different ways at different times.



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Role of the adult in supporting child development

Early childhood education can help children build strong foundation skills in numeracy. When children have plenty of opportunities to explore and practise using early numeracy skills, they can apply the skills they learn to new problems and activities in their everyday life.

Practitioners can support children to develop these skills in a range of ways, for example by providing opportunities for children to count in different contexts, modelling and encouraging use of measuring and counting language (e.g. 'how many children can wash their hands at this sink?'), or talking to children about the different ways they could solve puzzles with shapes. Striking a balance between child-led and adult-guided experiences helps children develop their love of learning while also supporting and extending their learning. The Early Years Library highlights specific effective practices from evidence-based programmes that you can weave into your existing approaches.

Are you using the Early Years Library?

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